WE CLAIM:

1. A method of assembly a frame structure of a SDH signal at a hierarchy level N, comprising:

receiving a hierarchically multiplexed administrative unit AU-n comprising a payload and an AU-n pointer;

converting said AU-n to a tributary unit TU-n; and

hierarchically multiplexing said TU-n into said frame structure, where n≥3, and gives the granularity of said SDH signal, and said AU-n pointer provides the beginning of said payload with respect to said frame.

2. A method as claimed in claim 1, wherein said step of converting comprises:

translating said AU-n payload into a TU-n payload; and

transforming said AU-n pointer into a TU-n pointer and aligning said AU-n payload into said TU-n based on said TU-n pointer.

3. A method as claimed in claim 1, wherein said step of hierarchically multiplexing comprises:

mapping said TU-n into a tributary unit group TUG-n;

hierarchically multiplexing said TUG-n into a higher order TUG-k;

mapping said TUG-k into a higher order virtual container VC-k of same hierarchical level;

aligning said higher order virtual container into a AU-k by providing a AU –k pointer;

mapping said AU-k into a administrative unit group AUG-k; and

assembling said frame structure from said AUG-k,

where k ≥n.

4. A method as claimed in claim 2, wherein said step of translating comprises:

mapping the user information from said AU-n payload field into said TU-n payload field; and

providing fixed stuff bits whenever the size of said TU-n payload field is larger than the area occupied by said user information.

5. A method as claimed in claim 3, wherein said step of hierarchically multiplexing said TUG-n into a TUG-k comprises:

(a) mapping said TU-n into a TUG-n;

(b) multiplexing said TUG-n into a VC-k;

(c) mapping said VC-k into a TU-k by adding a POH field corresponding to a hierarchical level k;

(d) mapping said TU-k into a TUG-k; and

(e) repeating steps (a) to (e) to the hierarchy level N.

6. A method as claimed in claim 2, wherein n=3 and N=4 for obtaining a hierarchically multiplexed STM-4.

7. A method as claimed in claim 6, wherein said step of hierarchically multiplexing comprises:

mapping said TU-3 into a tributary unit group TUG-3;

hierarchically multiplexing said TUG-3 into a TUG-5;

mapping said TUG-5 into a higher order virtual container VC-5 of same hierarchical level;

aligning said higher order virtual container into a AU-5 by providing a AU –5 pointer;

mapping said AU-5 into a administrative unit group AUG-N; and

assembling said frame structure from said AUG-4 group.

8. A method as claimed in claim 2, wherein n=4 and N=4 for obtaining a hierarchically multiplexed STM-4.

9. A method as claimed in claim 8, wherein said step of hierarchically multiplexing comprises:

mapping said TU-4 into a tributary unit group TUG-4;

hierarchically multiplexing said TUG-4 into a TUG-5;

mapping said TUG-5 into a higher order virtual container VC-5 of same hierarchical level;

aligning said higher order virtual container into a AU-5 by providing a AU –5 pointer;

mapping said AU-5 into a administrative unit group AUG-N; and

assembling said frame structure from said AUG-4 group.

10. A method of assembling a frame structure of a SDH signal comprising:

receiving a hierarchically multiplexed administrative unit AU-n-mc comprising a concatenated payload and an AU-n-mc pointer;

converting said AU-n-mc to a tributary unit TU-n-mc; and

hierarchically multiplexing said TU-n-mc into said frame structure, where n≥3, and gives the granularity of said payload, m is he level of concatenation and said AU-n pointer provides the beginning of said payload with respect to said frame.

11. A method of reducing the number of AU pointers of a very high speed synchronous transport signal STM-N with AU-n granularity,an AU-n unit having an AU pointer and an AU payload, the method comprising:

for each AU-n unit, hiding said AU-n pointer into said AU payload;

translating said AU-n payload to a TU-n payload; and

hierarchically multiplexing said TU-n into said frame structure.

12. A hierarchically multiplexed signal for transport over a multiplex section of a synchronous network, comprising

-a payload field with a coarse AU granularity corresponding to the granularity of a higher order tributary, said payload field carrying a plurality of fine granularity AU pointers hidden in a TU pointer area; and

-a section overhead field including a coarse granularity AU pointer.

13. A signal as claimed in claim 12, wherein said higher order tributary has a minimum size corresponding to an STM-4.

14. A signal as claimed in claim 13, wherein said higher order tributary has a size corresponding to one of an STM-16, STM-64 and STM-256.